

As also required under 37 C.F.R. 1.121, a clean version of the amended Abstract is set forth herebelow:

ABSTRACT OF INVENTION

An automatic vehicle classification and identification (AVIC) system for installation along a roadway. The system comprises first and second planar light illumination and imaging (PLIIM) based imaging and profiling subsystems mounted above and along side of the roadway. The function of these subsystems is to profile the geometry of top and side surfaces of each vehicle travelling under the subsystem and generate vehicle profile data for each such vehicle, and also, to capture digital images of both the front and rear license plates mounted on each vehicle, and generate vehicle image data representative of each captured digital image thereof. A computer system is provided for receiving vehicle image and profile data generated by first and second PLIIM based profiling systems, and processing the vehicle image and profile data so as to automatically identify and classify each vehicle travelling along said roadway. By virtue of the present invention, it is now possible to identify and classify vehicles by reading their license plates using planar laser illumination beams and linear image detection arrays with coplanar fields of view, thereby avoiding the need for large and expensive high-intensity lighting equipment required by conventional digital cameras employing 2-D electronic image detectors.